

All assemblies and tubular members shall be designed and manufactured as specified in A 385 to permit hot dip galvanizing. All holes required in the supports shall be made before galvanizing. The surfaces shall be protected during transportation and handling.

The structure shall be free from sharp edges, irregularities, misfits or structural deficiencies. After erection and before final acceptance, the Contractor shall repair or replace damaged surfaces in a manner acceptable to the Engineer.

Each location where overhead sign structures are to be installed shall be staked out by the Contractor and approved by the Engineer. After staking out the overhead sign structures and obtaining approval for their location from the Engineer, the Contractor shall submit working drawings and upon approval be permitted to order materials. The Contractor shall indicate on the working drawings the highest elevation of the traveled roadway and the shoulder elevation where sign structure supports will be installed.

803.04 MEASUREMENT AND PAYMENT. Overhead Sign Structures will be measured and paid for at the Contract unit price per each. The payment will be full compensation for all stakeouts, overhead sign structures, sign/luminaire supports, nuts and washers, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

SECTION 804 — GROUNDING

804.01 DESCRIPTION. This work shall consist of furnishing and installing grounding systems as specified in the Contract Documents or as directed by the Engineer. The grounding system shall conform to the latest editions of the National Electrical Code (NEC) and the National Electric Safety Code (NESC).

804.02 MATERIALS.

Ground Wire and Rods

950.06.04

804.03 CONSTRUCTION.

804.03.01 Equipment Grounding System. Equipment grounding system shall consist of the ground wire, electrically continuous metallic conduit system, grounding conductors, ground rods and terminations.

Every item of equipment served by the electrical system shall be bonded to the equipment grounding system.

804.03.02 Grounding Conductors. Grounding conductors shall be the size and type specified in the Contract Documents.

804.03.03 Ground Rods. Ground rods shall be installed as specified in the Contract Documents. Maximum acceptable earth resistance value shall be 25 ohms. Ground resistance of each rod shall be measured before connecting the rod to the grounding conductor. If the measured resistance exceeds 25 ohms, a 10 ft extension rod shall be exothermically welded to the top of the first rod, then driven to its full depth. Earth resistance shall again be measured, and if it still exceeds 25 ohms, the Engineer shall be contacted for instructions.

Where rock is encountered and acceptable earth grounds cannot be accomplished by driving as described above, the Engineer may direct the use of a grounding grid utilizing direct buried rods exothermically welded end to end to bond lighting standards and structures in continuous series to some point where an acceptable earth ground can be obtained.

804.03.04 Continuity. Continuity of the equipment grounding system shall be maintained throughout the project.

804.03.05 Terminations. Connection to equipment grounding system shall be made with suitable lugs at all grounding bushings specified in Section 805, and at the ground lugs in lighting structure access holes or in a breakaway base. Connections to ground rods shall be as specified in the Contract Documents. Connections to neutral grounding systems shall be made with lugs, as specified in Section 805.

804.03.06 Testing. Refer to Section 820.

804.04 MEASUREMENT AND PAYMENT. Ground Rods will be measured and paid for at the Contract unit price per each 10 ft length. The payment will be full compensation for all rods, lugs, driving rods, weldings, excavation, backfill, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

Ground Wire will be measured and paid for as specified in 810.04.01.